

REMARKS

Claims 1-15 and 17-97 are pending in this application. Claim 16 has been previously cancelled. Claims 1, 18, 19, 31, 37, 43 and 44 are currently amended. New claims 46-97 have been added.

By way of overview, all of the prior independent claims (1, 18, 19, 31, 37, 43 and 44) have been amended. New dependent claims (46-49) depend from these independent claims. A new set of claims has also been added. This new set includes new independent claims (50, 66, 67, 79, 85, 91 and 92) that generally correspond to the prior independent claims (1, 18, 19, 31, 37, 43 and 44). The new set of claims also includes new dependent claims (94-97) which depend from the new independent claims.

In the Office Action mailed on February 20, 2003, claims 1-15 and 17-42 were finally rejected as being anticipated by U.S. Patent No. 6,067,005 to DeVolpi. Applicants filed a Rule 116 Amendment in response thereto. Applicants sought to also add new claims 43-45 in the Rule 116 Amendment, and have now requested that such claims be entered with the present request for continued examination (RCE). Detailed remarks as to why the prior pending claims were not anticipated by DeVolpi were presented in the Rule 116 Amendment and applicants maintain that their position is correct as to why there is no anticipation. After entry of the applicants' Rule 116 amendment was denied by the Advisory Action mailed on May 27, 2003, applicants sought to discuss proposed new claims sent by facsimile to the Examiner on June 26, 2003.

With the present amendment, applicants have based the amended independent claims and newly added independent claims on the proposed amended claims that were submitted by facsimile.

All claims now include the feature of calibration. -- For example, amended claim 1 provides:

1. A control apparatus, comprising:
  - a controller;
  - a detecting device for providing analog signals in response to pressures applied to the controller during normal operation of the controller and an analog calibration signal in response to an initial calibrating pressure applied to the controller; and
  - an output unit including a level segmenting unit for segmenting an output level of the analog calibration signal into predetermined calibration levels based on the initial calibrating pressure and for segmenting an output level of the analog signals into predetermined levels during normal operation, and an analog-to-digital (A/D) converting unit for converting the predetermined levels into digital signals each having a plurality of bits. (Emphasis added.)

Likewise, new claim 50 provides:

50. A control apparatus, comprising:
  - a controller;
  - a detecting device for providing an analog signal in response to an initial calibrating pressure applied to the controller; and
  - an output unit including a level segmenting unit for segmenting an output level of the analog signal into predetermined calibration levels based on the initial calibrating pressure, and an analog-to-digital (A/D) converting unit for converting the predetermined calibration levels into digital signals each having a plurality of bits. (Emphasis added.)

The level segmenting unit allows the control apparatus to be calibrated as follows. First, when the control apparatus is made on the production line, it can be calibrated. For example, when a predetermined load or pressure is applied to the control apparatus, the resistance of the pressure-sensitive detecting device becomes a maximum. The predetermined load allows analog signals to be output from the detecting device. Based on the output level of the initial analog calibration signal, the output range of an analog signal that is to be level segmented by the level segmenting unit is adjusted. Support for this feature can be found in the specification, for example, in the discussion of Figure 6 (e.g., pages 14-15).

Second, a user can also calibrate the control apparatus. For instance, a message on a display screen can appear prompting the user to strongly press the control apparatus. When the user strongly presses the control apparatus, an output level of an analog calibration signal is output from the pressure-sensitive detecting device. The level segmenting unit in the control apparatus adjusts the range of the output levels of the segmented analog signal based on the output level. Support for this feature is found in the specification, for instance, at the discussion of Figure 8 (e.g., page 16).

The number of the segmented levels can be changed such that the precision of the output level of the level segmenting unit can be selected and a predetermined number of levels can be conveniently set. This is discussed in the specification, for example, with regard to Figure 4 (e.g., page 12).

Applicants do not agree with the anticipation rejection of the prior claims for at least the reasons set forth in the Rule 116 amendment, and further traverse the Examiner's remarks in the Advisory Action including the table which shows only

possible results of an A/D conversion from a fictional A/D converter, and not how such conversion is achieved. Also, applicants note that the Examiner has provided a website link to satisfy applicants' alleged request "for a reference that explains how an A/D converter works." However, applicants had asked for a reference that specifically supports the conclusion that an A/D converter is inherently a level segmenting device for segmenting an output level of the analog signal. In any event, applicants have now chosen to amend the claims to expedite prosecution and avoid further rejections based on an interpretation of DeVolpi as disclosing the prior claimed level segmenting device for segmenting the output level of the analog signal. Applicants believe that the amended and newly presented claims now include limitations, such as the calibration feature, that are not disclosed or suggested by the prior art, alone or in combination. Accordingly, applicants request withdrawal of the rejection of the claims in view of DeVolpi.

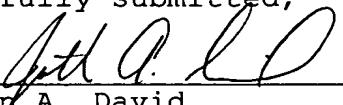
In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he/she telephone applicants' attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Dated: July 18, 2003

Respectfully submitted,

By 

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